REMARKS

The Office Action dated May 20, 2005 has been received and carefully noted. The above amendments to the claims and specification, and the following remarks, are submitted as a full and complete response thereto. Claims 1, 3 and 6 have been amended and claims 7 and 8 have been added. No new matter has been entered. Thus, claims 1-8 are respectfully submitted for consideration.

The Office Action indicated that claims 3, 4 and 6 were objected to as being dependent on a rejected base claim, but contained allowable subject matter. Claim 3 has been amended to place that claim in independent form, with claims 4 and 6 still dependent on claim 3. As such, Applicants respectfully request that claims 3, 4 and 6 should now be allowed and indications thereof are respectfully requested.

The Office Action objected to the specification, particularly the abstract. The objection indicates that the use of "claim terminology," such as "comprises" or "said" makes the Abstract In response, Applicants have submitted a substitute abstract that removes the claim terminology thereform. Acceptance of this substitute Abstract and withdrawal of the objection are respectfully requested.

The Office Action also objected to claims 1 and 6 because of minor informalities. Applicants have attended to the noted informalities in claims 1 and 6 and Applicants respectfully assert that objection should now be withdrawn.

Claims 1, 2 and 5 were rejected under 35 U.S.C. §102(b) as being anticipated by *Funada* (U.S. Patent no. 6,516,247). The Office Action took the position that *Funada*

disclosed all of the elements of the claimed invention. Applicants respectfully submit that the presently pending claims recite subject matter which is neither disclosed nor suggested in the cited prior art.

Claim 1, from which claims 2 and 5 depend, recites a face identification system including a robot, enabled to move to plural areas, that has a face data generator to generate face data of an objective person after acquiring a face image data of the objective person, a face data register to register the face data to be stored, a temporary face data storage to store the face data as reference face data and a face identifier to identify a face of the objective person by comparing the face data of the objective person and the reference face data. The system also includes a data base to record face data of plural persons and a controller which sends the face data as reference face data to the robot, wherein the face data are retrieved from the data base among possible persons who have concurrent presence in an area and time zone with the robot.

Claim 7, from which claim 8 depends, recites a face identification system including a robot, enabled to move to plural areas, that has a face data generator to generate face data of an objective person after acquiring a face image data of the objective person, a face data register to register the face data to be stored, a temporary face data storage to store the face data as reference face data and a face identifier to identify a face of the objective person by comparing the face data of the objective person and the reference face data, and a transceiver to enable communication outside the robot. The system also includes a data base to record face data of plural persons and a controller

which sends the face data as reference face data to the robot via the transceiver, wherein the face data are retrieved from the data base among possible persons who have concurrent presence in an area and time zone with the robot.

As discussed in the present specification, embodiments of the present invention enable a face identification system that has the capability to move about an extensive range due to the autonomous moving capability of the robot. The range is beyond a family home area to other facilities, such a schools, governmental buildings and department stores, where a large number of people's faces and data are acquired. Because of this, a large capacity of data needs to be handled and large data storage devices are required. The face image data to be used for identification of persons in particular areas into which the robot moves have been reduced when compared to all of the reference data that is stored in the database. Use of the reference data prevents the search of all stored face data in order to identify a person. On the other hand, the capacity of the temporary face data storage built into the robot can be rather small.

Because of this, the face identification system of the instant invention identifies the objective person by comparing reference data of the persons who are potentially present in the place when the robot happens to be with the face data of the objective person. Therefore, the face data of the persons who are not expected to be present, at that specific place and time, are excluded and the less data need be searched to arrive at an identification of the subjective person.

It is respectfully submitted that the prior art of *Funada* fails to disclose or suggest all of the elements of any of the presently pending claims. Therefore, the prior art fails to provide the critical and unobvious advantages discussed above.

Funada is directed to a robot is capable of reducing incorrect identification in the case of executing face identification in a place where lighting variations are large such as in a house and in a place where there exists a lighting environment that is bad for identification. A face area of a person is detected from an image picked up at an imaging device and stored, and a face detecting and identifying device identifies a person using face image information stored before then. An identification result reliability calculating device calculates, using information from the imaging device, whether or not a present lighting state is suitable for face identification. When the result of calculation indicates that the lighting state is not suitable for face identification, the robot is moved by a moving means. Thereby, incorrect identification can be reduced.

However, *Funada* fails to teach or suggest that a face identification system that receives face data from the data bases "among possible persons who have concurrent presence in an area and time zone with said robot," as recited in claim 1. Claim 7 recites the same limitation. While it could be argued that the system of *Funada* takes into account time and position, such considerations do not play a part in determining the face data that the system receives and/or uses. The considerations of time and position are used to determine lighting levels and compensations for those lighting levels. The database of face data that needs to be searched to provide a proper identification is not
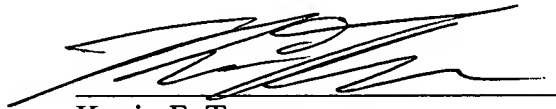
reduced. Therefore, it would be expected that the time taken for identification would be the same irrespective of location area or time. Thus, this element of claims 1 and 7 is neither taught nor suggested by *Funada*. For at least this reason, Applicants respectfully assert that the rejection of claim 1 is improper and should be withdrawn.

Claims 2 and 5 depend from claim 1 and should also be allowed for at least their dependence on claim 1. Claims 7 and 8 should also be allowed over the cited prior art for at least the same reasons as discussed above for claim 1. Additionally, claims 3, 4 and 6 should be allowed because the earlier indications of allowable subject matter. It is further submitted that each of claims 1-8 recite subject matter which is neither disclosed nor suggested in the cited prior art. It is therefore respectfully requested that all of claims 1-8 be allowed, and this application passed to issue

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

Kevin F. Turner
Registration No. 43,437

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

KFT:jf